UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,180	07/17/2006	Adrianus J.S.M. De Vaan	US040096	2761

24737 7590 09/26/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
BLACKMAN, ROCHELLE ANN J	
ART UNIT	PAPER NUMBER
2862	
MAIL DATE	DELIVERY MODE
09/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,180	DE VAAN, ADRIANUS J.S.M.	
	Examiner	Art Unit	
	Rochelle Blackman	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/17/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

2. The disclosure is objected to because of the following informalities: on pg. 4, line 12, "reflective element 108" should be - -reflective element 103- -.

Appropriate correction is required.

Claim Objections

Claim 4 is objected to because of the following informalities: claim 4 should depend directly from claim 3 and not claim1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Edlinger et al. (U.S. Patent Application Publication No. 2003/0007245).

Regarding claim 1, Edlinger discloses a light-valve system (see FIGS. 1-6) adapted to recycle light, comprising: a light-valve (see 25 of FIG. 7), which is optically coupled to a polarization discriminator (see 1, 1a-c and/or 23 of FIGS. 1 and 3-7); and a light recycling device (see 3, 3a of FIGS. 1-5 and 7), which selectively alters the polarization state of light reflected by the polarization discriminator back to the system, wherein the reflected light is transmitted to an imaging surface (although not shown, this would be the screen or display surface that the image or "reflected light" is projected on by projection lens 27 in FIG. 7) increasing the brightness of an image.

Regarding claim 2, Edlinger discloses a light-valve system as recited in claim 1, wherein the reflected light substantially uniformly illuminates the imaging surface (this is considered to be a function performed by projection lens 27).

Regarding claim 3, Edlinger discloses a light-valve system as recited in claim 1, wherein the light recycling device includes a rod integrator (see 3, 3a of FIGS. 1-5 and 7) having a reflective element (see 11 of FIG. 4) and an optical retarder (see 13c of FIG. 4) at a first end, and a reflective optical retarder (see 1a-c of FIG. 4-6) at a second end.

Regarding claim 4, Edlinger discloses a light-valve system as recited in claim 1, wherein the optical retarder is a quarter-wave retarder (see paragraph [0038]).

Regarding claim 5, Edlinger discloses a light-valve retarder as recited in claim 3, wherein the reflective optical retarder transmits light of a first polarization state and reflects light that is of a second polarization state that is orthogonal to the first polarization state, and wherein the first polarization state is substantially parallel to a

transmission axis of the optical retarder at the first end (see 1a-c in FIGS. 4-6 and paragraphs [0039]-[0041]).

Regarding claim 6, Edlinger discloses a light-valve system as recited in claim 1, further comprising a device (see 19 of FIG. 7 and paragraphs [0043] and [0045]) adapted to sequentially provide red, green and blue light from a light source (see 17 of FIG. 7).

Regarding claim 7, Edlinger discloses a light-valve system as recited in claim 6, wherein the device is a color filter (see paragraphs [0043] and [0045]).

Regarding claim 8, Edlinger discloses a light-valve system as recited in claim 6, wherein the device is a color wheel (see paragraphs [0043] and [0045]).

Regarding claim 9, Edlinger discloses a light-valve system as recited in claim 1, wherein the light-valve is one of a liquid crystal light-valve, a ferroelectric liquid crystal light-valve or a non-ferroelectric liquid crystal light-valve (see paragraph [0043] and [0045]).

Regarding claim 11, Edlinger discloses a light-valve system as recited in claim 1, wherein the system is a color sequential system (see 19 of FIG. 7 and paragraph [0043] and [0045]).

Claims 12-18 are rejected for the same reasons as applied to claims 1-11

2. Claims 1, 2, 4, 6-13, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by De Vaan (U.S. Patent Application Publication No. 2002/0176146).

Regarding claim 1, De Vaan discloses a light-valve system (see FIGS. 1-9) adapted to recycle light, comprising: a light-valve (see 27 of FIG. 1), which is optically coupled to a polarization discriminator (see 23 of FIG. 1); and a light recycling device (see 12 of FIG. 1), which selectively alters the polarization state of light reflected by the polarization discriminator back to the system (see paragraph [0027]), wherein the reflected light is transmitted to an imaging surface increasing the brightness of an image (see *screen* in paragraphs [0027]-[0029]).

Regarding claim 2, De Vaan discloses a light-valve system as recited in claim 1, wherein the reflected light substantially uniformly illuminates the imaging surface (see paragraphs [0027]-[0029]).

Regarding claim 4, De Vaan discloses a light-valve system as recited in claim 1, wherein the optical retarder is a quarter-wave retarder (see 32 of FIG. 1).

Regarding claim 6, De Vaan discloses a light-valve system as recited in claim 1, further comprising a device (see 29 of FIG. 1) adapted to sequentially provide red, green and blue light from a light source.

Regarding claim 7, De Vaan discloses a light-valve system as recited in claim 6, wherein the device is a color filter (see 29 of FIG. 1).

Regarding claim 8, De Vann discloses a light-valve system as recited in claim 6, wherein the device is a color wheel (see 29 of FIG. 1).

Regarding claim 9, De Vaan discloses a light-valve system as recited in claim 1, wherein the light-valve is one of a liquid crystal light-valve, a ferroelectric liquid crystal light-valve or a non-ferroelectric liquid crystal light-valve (see *reflective liquid crystal on silicon (LCOS)* in paragraph [0024]).

Regarding claim 10, De Vaan discloses a light-valve system as recited in claim 9, wherein the liquid crystal light-valve is one of a twisted nematic liquid crystal light-valve or a liquid crystal on silicon (LCOS) light-valve (see *reflective liquid crystal on silicon (LCOS)* in paragraph [0024]).

Regarding claim 11, De Vaan discloses a light-valve system as recited in claim 1, wherein the system is a color sequential system (see 29 of FIG. 1).

Claims 12, 13, and 16-18 are rejected for the same reasons as applied to claims 1, 2, 4, and 6-11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rochelle Blackman
Patent Examiner

RB